



#5/Election  
4-16-02  
PATENTS  
Malish

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Atsushi YAMAGUCHI et al.

Serial No. 09/816,754 ✓

GROUP 2826

Filed March 26, 2001 ✓

Examiner R. Fode

NITRIDE BASED SEMICONDUCTOR  
PHOTO-LUMINESCENT DEVICE

RECEIVED  
APR 15 2002  
TECHNOLOGY CENTER 2800

RESPONSE

Commissioner for Patents

Washington, D.C. 20231

Sir:

This replies to the Official Action of March 12, 2002.

Responsive to the requirement for election of species, applicant elects the first designated species, namely, that of Figure 2.

It is believed that claims 1-13, 15-33, and 35-55 are readable on the elected embodiment.

An action on the merits is respectfully requested.

Respectfully submitted,

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By

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April 11, 2002

ABSTRACT OF THE DISCLOSURE

A nitride based semiconductor photo-luminescent device has an active layer having a quantum well structure. The active layer has both a high dislocation density region and a low dislocation density region that is lower in dislocation density than the high dislocation density region, wherein the low dislocation density region includes a current injection region into which a current is injected, and the active layer is less than  $1 \times 10^{18} \text{ cm}^{-3}$  in impurity concentration.